

**Claim Listing**

1. (Currently amended)

2. (Currently amended)

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**Patent claims :**

1. The calculating method to determine the dynamic unbalance in rigid rotors of the industrial rotating machine in field balancing, comprising the following steps :
  - a. measuring [[and which are measured]] the magnitudes and directions for the original vibration vector quantities of displacement, [[velocity, or acceleration]] which originated in dynamic unbalance in rotor at the two bearings of the rotating machine [[or dynamic balancing machines]] without test runs attached with trial masses.
  - b. calculating the unbalance centrifugal forces at the two bearings of the rotating machine, based on the equation of motion which are using the data consist of the measured displacements, the measured or estimated frequency ratios and damping ratios of the bearing-and-rotor system.
  - c. determining the dynamic unbalance including two amounts and angles of unbalance vectors of the two correction planes of the rotor by transferring the unbalance centrifugal forces at the two bearings of rotating machine to the correction planes of the rotor, by the geometric vector calculation based on the statics theorem which is using with the ratios between the relative distance lengths of bearings of rotating machines and [[apparatus]] the ratios of the distance length of [[arbitrarily chosen]] two correction planes of rotor.
2. The computers, measuring instruments and testing facilities, which the calculating method to determine the dynamic unbalance in rotor with the geometric vector calculation according to [[mentioned in the]] claim 1 is [[are]] directly or indirectly applied or equipped.

Amended by K.Tsuji  
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